

MAY. 14. 2003 1:50PM

NIXON PEABODY

NO. 6085 P. 2/5

Docket No. 740145-201

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:)
Yoshitaka KANZAKI et al.) Group Art Unit: 2879
Serial No. 09/874,231)
Filed: June 6, 2001) Examiner: S. Leurig
For: SHORT-ARC, ULTRA-HIGH-)
PRESSURE DISCHARGE LAMP)
AND METHOD OF)
MANUFACTURE)

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April Campbell
April Campbell

RESPONSE

Mail Stop Non-fee Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The Office Action of February 14, 2003 was received and carefully reviewed. For the reasons advanced in detail below, reconsideration and withdrawal of the currently pending rejection is requested. Additionally, the Applicants acknowledge the election of Group 1 (claim 1) invention during the telephone conversation of January 28, 2003, and, consequently claim 2 is withdrawn from consideration as being drawn to a non-elected invention. Claims 1-2 remain pending.

The presently claimed short-arc, ultra-high-pressure discharge lamp requires the following features:

a luminescent tube containing a pair of facing electrodes, and

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side tubes extending from opposite sides of the luminescent tube, a portion of the electrodes being sealed within said side tubes;

wherein a small space is provided between the electrodes and an inner surface of said side tubes for enabling the electrodes to expand and contract freely without compression along their axes due to a difference in indices of expansion of materials that make up the electrodes and the side tubes. (Emphasis added)

A short-arc discharge lamp of this structure overcomes the problem of cracking in the area of the pinch seal due to the difference between the thermal coefficient of expansion of the electrode material and the quartz glass of the lamp luminescent tube, as discussed in the specification, paragraphs [0004]-[0008], and illustrated in Figure 1.

Turning to the rejection of claim 1, under 35 U.S.C. § 103(a), as being obvious in view of the teachings of the Nagata et al. ('591) reference, this rejection is respectfully traversed. Specifically, the Nagata et al. patent does not teach or suggest a short-arc discharge lamp having both of the features highlighted above. The invention of the Nagata et al patent solves the problem (Figure 13) of too large a width or spacing between the inside of the neck portion (9) of the side tube of a discharge lamp relative to the electrodes (6) which results, after pinch sealing of the neck portions (9), in the distortion of glass material (Figure 11) into the discharge chamber (5a) of the lamp which causes the electrodes (6) to become eccentric from each other (column 1, line 23, to column 2, line 38).

The patentees teach that the problem can be solved by, **prior to pinch sealing the neck portions**, dimensioning the space, i.e., providing a radial clearance, between the electrode and the neck portion such that, **during subsequent pinch sealing**, the distortion of glass material from the side tubes into the discharge chamber of the lamp does not occur (column 2, line 57, to column 3, line 46). The Applicants specifically point out that the preliminarily formed discharge lamp tube of Nagata et al having the desired "radial clearance" **prior to pinch sealing** (illustrated by Figure 2, elements

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wn_1 , wn_2) does not have "side tubes...a portion of the electrodes being sealed within said side tubes" of claim 1; while the completed short-arc discharge lamp of Nagata et al. (illustrated by Figure 1), after pinch sealing, does not have the claim 1 feature of a "small space is provided between the electrodes and an inner surface of said side tubes for enabling the electrodes to expand and contract freely without compression along their axes..."

This is because the preliminarily formed discharge lamp (Figure 2) of Nagata et al., after undergoing the pinch sealing process, has the "radial clearance" removed by the pinch sealing process (see column 4, line 61, to column 5, line 5; Figures 3(a)-3(d)) to form the discharge lamp. Further, the "radial clearance" taught by Nagata et al. is large enough to permit insertion of the electrodes (6) into the tube, but small enough to prevent distortion of the glass material of the tubes into the discharge chamber (5a) during the pinch sealing process. It is additionally noted that if the small "radial clearance" was to remain after pinch sealing of Nagata et al, as the Examiner seems to be stating, then a discharge lamp would not be formed since a sealed discharge chamber (5a) containing the luminous material cannot be formed since the luminous material would leak out of the discharge chamber (5a) through the remaining "radial clearance."

From the summary of the teachings of Nagata et al. above, it can be seen that the Nagata et al reference contains no teaching of the claimed features highlighted above within a completed discharge lamp nor does the patent contain any suggestion to modify the teachings to provide both of the claim features highlighted above within a completed discharge lamp. For this reason, the rejection of claim 1, under § 103(a), has been set forth in error and must be removed.

While the present application is now believed to be in condition for allowance, should the Examiner find some issue to remain unresolved, or should any new issues arise, which could be eliminated through discussions with Applicants' representative,

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then the Examiner is invited to contact the undersigned by telephone in order that the further prosecution of this application can thereby be expedited.

Respectfully submitted,

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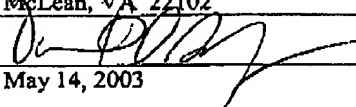
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TRANSMITTAL FORM <i>(to be used for all correspondence after initial filing)</i>		Application Number	09/874,231
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		First Named Inventor	Yoshitaka KANZAKI et al.
		Group Art Unit	2879
		Examiner Name	S-Leurig
Total Number of Pages in This Submission	5	Attorney Docket Number	740145-201

ENCLOSURES (check all that apply)		
<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input checked="" type="checkbox"/> Amendment / Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Assignment Papers (for an Application) <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Declaration and Power of Attorney <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____	<input type="checkbox"/> After Allowance Communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input type="checkbox"/> Application Data Sheet <input type="checkbox"/> Other Enclosure(s) (please identify below):
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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
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Signature	
Date	May 14, 2003

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Name:	April Campbell

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